

1.4542 / 17.4 PH / 1.4542

Chemical Properties

Element	Chemical Composition %
Carbon (C)	0.00 - 0.07
Silicon (Si)	0.00 - 1.00
Manganese (Mn)	0.00 - 1.00
Nickel (Ni)	3.00 - 5.00
Chromium (Cr)	15.00 - 17.50
Copper (Cu)	3.00 - 5.00
Sulphur (S)	0.00 - 0.030
Phosphorous (P)	0.00 - 0.040
Columbium (Cb)	0.15 - 0.45

Heat Treatment & Mechanical Properties

Condition	Heat Treatment degc	0.2% Proof Stress (Mpa min)	UTS (Mpa min)	Elongation (%)	Reduction of Area % min	Hardness Brinell (HB)	Impact Toughness J min (Room temp)
A	1040 cool to below 32	-	-	-	-	363 max	-
H900	+480 1hr	1170	1310	10	40	388 min	-
H925	+495 4hrs	1070	1170	10	44	373 min	6.8
H1025	+550 4hrs	1000	1070	12	45	331 min	20
H1075	+580 4hrs	860	1000	13	45	311 min	27
H1100	+595 4hrs	795	965	14	45	302 min	34
H1150	+620 4hrs	725	930	16	50	277 min	41
H1150M	+760 2hrs / +620 4hrs	520	795	18	55	255 min	75
H1150D	+620 4hrs	725	860	16	50	255 min - 311 max	41

Modulus of elasticity, GPa at

20 degc (68degf)	100 degc (210 degf)	200 degc (390 degf)	300 degc (570 degf)	400 degc (750 degf)
10.9 (6.1)	11.0 (6.1)	11.0 (6.1)	11.1 (6.2)	11.2 (6.2)

Physical Properties

Property	Value	Unit
Density at 20°C (68 °F)	7.80	kg/dm ³
Thermal Conductivity at 20°C (68 °F)	16.0	W/m.K
Specific Heat at 20°C (68°F)	500	J/kg.K
Elastic Resistivity at 20°C (68°F)	0.71	Ohm.mm ^{2/m}
Modulus of elasticity at 20°C (68°F)	200 x 10 ³	200 x 10 ³
Magnetic Properties		magnetic

Thermal Expansion Coefficient between 20degc (68 degf) and temperature below 10⁻⁶/degc (10⁻⁶/degf)

100 degc (210 degf)	200 degc (390 degf)	300 degc (570 degf)	400 degc (750 degf)
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Product Forms

Round Bar

Disclaimer

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